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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/769,684	01/30/2004	Sergio P. Bonilla	SJO920030093US1	9136

46917 7590 03/22/2007		EXAMINER
KONRAD RAYNES & VICTOR, LLP. ATTN: IBM37 315 SOUTH BEVERLY DRIVE, SUITE 210 BEVERLY HILLS, CA 90212		HARPER, LEON JONATHAN

ART UNIT	PAPER NUMBER
2166	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

	Application No.	Applicant(s)
Office Action Summary	10/769,684	BONILLA ET AL.
	Examiner	Art Unit	
	Leon J. Harper	2166	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 December 2006*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *1/30/2004*.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   The amendment filed 12/15/2006 has been entered. No claims have been

amended, added, or cancelled. Accordingly claims 1-33 remain pending in this office

action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Delphi 4 Unleashed Chapter 3 (hereinafter Polymorphism)(art of record) in view of US

20040039745 (hereinafter Evans).

As for claim 1 Polymorphism discloses: receiving a request implemented via at least one device independent class (See page 4 lines 22-25 note: "DrawIt" this method is called without respect to child class); traversing a class hierarchy database to determine at least one device specific class that corresponds to the at least one device independent class (See page 4 lines 21-23 note: function call traverses to find out which child function it needs to call), and modifying the received request, wherein in the modified request the least one device independent class has been translated to the at least one device specific class (See page 5 lines 5-9 method is called in terms of parent and is translated then executed with respect to the child class).

While Polymorphism does not differ substantially from the claimed invention the disclosure of wherein the class hierarchy database stores a class hierarchy and associations between classes is not necessarily explicit. Evans however, does disclose wherein the class hierarchy database stores a class hierarchy and associations between classes (See abstract and paragraphs 0008, 0011). It would have been obvious to an artisan of ordinary skill in the pertinent art to have incorporated principals of Polymorphism into the system of Evans. The modification would have been obvious because Evans is based on and uses the principals of Polymorphism. Evans is a system for associating classes (See title). While Evans deals mainly with CIM, Evans uses inheritance in order to achieve this associating (See paragraph 0175). However given that inheritance and polymorphism is known in the art Evans does not disclose

the underlying implementation of polymorphism.

As for claim 2 the rejection of claim 1 is incorporated, and further Evans discloses: mapping at least one device independent class attribute to at least one device specific class attribute in the modified request (See paragraph 0177); mapping at least one device independent property to at least one device specific property in the modified request; generating a device specific request from the modified request (See paragraph 0175), in response to mapping the at least one device independent class attribute and the at least one device independent property; and sending the device specific request to a managed device (See paragraph 0191).

As for claim 3, the rejection of claim 1 is incorporated, and further Evans discloses: modifying the received request to include at least one association between device specific classes in the class hierarchy (See paragraph 0211).

As for claim 4, the rejection of claim 1 is incorporated, and further Polymorphism discloses: wherein the received request indicates a source class and a requested class, the operations further comprising (See page 6 note: and child request is made to functions from the parent class): determining a specific association between a first device specific class that corresponds to the source class and a second device specific class that corresponds to the specific class (See page 5 paragraph 2). While Evans discloses: wherein the specific association corresponds to a managed device (See

paragraph 0181).

As for claim 5, the rejection of claim 4 is incorporated, and further Evans discloses: wherein the source class represents storage pools and the requested class represents storage volumes corresponding to a storage pool (See paragraph 0178).

As for claim 6, the rejection of claim 1 is incorporated, and further Evans discloses: determining a first device specific class from the class hierarchy database, wherein the first device specific class has a specific association with a second device specific class that corresponds to the indicated source class, and wherein the specific association corresponds to the base association (See paragraph 0011).

As for claim 7, the rejection of claim 1 is incorporated, and further Evans discloses: generating a device specific request in a device specific language; and sending the device specific request in the device specific language to a managed device coupled to the proxy (See paragraph 0159).

As for claim 8, the rejection of claim 1 is incorporated, and further Evans discloses: wherein the request is received from a Common Information Model application, and wherein the at least one device independent class is specified by a Common Information Model schema (See paragraph 0175).

As for claim 9, the rejection of claim 1 is incorporated, and further Evans

discloses: a command that is part of an object oriented management schema for

managing non-homogeneous devices in a network environment (See paragraph 0190).

As for claim 10, the rejection of claim 9 is incorporated, and further Evans

discloses: wherein the management schema comprises the Common Information Model

(See paragraph 0175).

Claims 11-20 are method claims corresponding to article of manufacture claims

1-10 respectively and are thus rejected for the same reasons as set forth in the rejection

of claim 1-10.

Claims 21-30 are system claims corresponding to article of manufacture claims

1-10 respectively and are thus rejected for the same reasons as set forth in the rejection

of claim 1-10.

Claims 31-33 are system claims corresponding to article of manufacture claims

1,2,4 respectively and are thus rejected for the same reasons as set forth in the

rejection of claim 1,2,4.

Response to Arguments

Applicant's arguments filed 12/15/2006 have been fully considered but they are

not persuasive.

Applicant argues:

Applicants submit that nowhere does the cited Polymorphism (page 4, lines 21-

25; page 5, lines 5-9) or the cited Evans (Abstract, paragraphs 8, 11,175), either alone

or in combination teach or suggest the claims requirements of traversing a class

hierarchy database to determine at least one device specific class that corresponds to

the at least one device independent class. The Examiner has mentioned that page 4,

lines 21-23 of the cited Polymorphism discloses the claim requirement of traversing a

class hierarchy database to determine at least one device specific class that

corresponds to the at least one device independent class. Applicants respectfully submit

that the cited Polymorphism discusses how a method on an object can be allowed to act

in many different ways. For example, one object, called shape may "morph" from one

functionality to another, depending on the context of the call. Polymorphism discusses a

series of objects which descend from one base class and respond to the same virtual

command to produce different outcomes. However, nowhere does the cited

Polymorphism teach or suggest the claim requirements of: (i) at least one device

independent class (ii) at least one device specific class that corresponds to the at least

one device independent class. In the cited Polymorphism (Page 3; section entitled "A

Simple Example of Polymorphism"), the four objects TRectangle, TEllipse, TCircle and

Tsquare objects are each a descendant of a base class called TShape. However, the cited Polymorphism does not teach or suggest the claim requirements of at least one device independent class and at least one device specific class that corresponds to the at least one device independent class. The four objects TRectangle, TEllipse, TCircle and Tsquare objects are each a descendant of a base class called TShape and there is no teaching or suggestion in the cited Polymorphism of at least one device independent class and at least one device specific class that corresponds to the at least one device independent class. Should the Examiner continue to maintain the rejection the Examiner is requested to indicate which elements of the cited Polymorphism correspond to each of the following: (i) at least one device independent class (ii) at least one device specific class that corresponds to the at least one device independent class. Additionally, nowhere is there any teaching or suggestion in the cited Polymorphism of traversing a class hierarchy database. While the cited Polymorphism may discuss that a method of an object can act in many different ways there is no teaching or suggestion of the claim requirements of traversing a class hierarchy database. Should the Examiner continue to maintain the rejection the Examiner is further requested to indicate where the cited Polymorphism teaches or suggests the claim requirement of traversing a class hierarchy database. In fact the cited Polymorphism teaches away from the claim requirements of at least one device independent class and at least one device specific class that corresponds to the at least one device independent class because the cited Polymorphism discusses on page 5, lines 11-12: "...you can use an object of a single type yet have it behave in many different ways". Therefore, the cited Polymorphism is

related to the usage of an object of a single type in many different ways, whereas the claims require at least one device independent class and at least one device specific class that corresponds to the at least one device independent class, wherein the class hierarchy is traversed to determine the at least one device specific class. For the above reasons claims 1, 11, 21, 33 are patentable over the cited art.

Examiner responds:

Examiner is not persuaded. Reference is made to MPEP 2144.01 - Implicit Disclosure"[I]n considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom." In re Preda, 401 F.2d 825, 826,159 USPQ 342, 344 (CCPA 1968) Subsequent to an analysis of the claims it was revealed that a number of limitations recited in the claims belong in the prior art and thus encompassed and/or implicitly disclosed in the reference (s) applied and cited. The cited reference Polymorphism (the cited reference) basically discloses the programming method of Polymorphism. An artisan of ordinary skill in the art would find that applicant's invention is implicitly disclosed once the artisan views a disclosure of polymorphism. Polymorphic programming is well known in the art and is used to make generic function calls to objects in which what function will actually be called will depend upon which specific object (device, function etc.) it is that implements and uses the generic call and is actually located in the run time stack at execution of that code segment.

Polymorphism is based on Inheritance, derived objects and run-time binding (also

known in the art as dynamic binding or late binding). In polymorphism a base class is

created (Shape, File, DesktopItem, Vehicle etc.). Child classes are created that inherit

all of the properties of the base class (functions, base variables etc. In A vehicle class

for example, the derived classes could be Car, Truck, Bike, SUV. Each will implement

the functions of the base class. The power of polymorphism lies in the fact that list or

other data structures can be created to hold pointers to the base class (Vehicle for

example) and the list can store either Cars Truck, Bikes or Suv's or any combination

thereof all in the same list as pointers to a Vehicle class member. This means that

function calls are made in terms of the base class and it is not until the program is run

and it is known which of the item(s) are actually in the list that the program looks to the

specific class (car, truck, bike or suv) and calls the function that is implemented by the

specific class (car, truck, bike, or suv) instead of the function that is located in the base

(independent) class (This is the concept of run-time binding). Claims 1,11,21, and 31

are disclosed as follows

            receiving a request implemented via at least one device independent class; (This

is the call to the base class (also generic or independent class) traversing a class

hierarchy database to determine at least one device specific class that corresponds to

the at least one device independent class, (This is done when the run-time stack looks

to replace the base class function call with the actual function call from one of the

derived classes i.e. function call is made via point to a Vehicle base class function and during run-time it is replaced with either a Car, Truck, Bike or SUV function call).

wherein the class hierarchy database stores a class hierarchy and associations between classes (The association is base class/ derived class (Also known as parent/child class); and modifying the received request, wherein in the modified request the least one device independent class has been translated to the at least one device specific class (This is just the process of searching for the actual function call from the derived class and replacing the independent class or base class call.) Moreover, the Common Information Model (CIM) spcifices methods and objects.

Applicant argues:

Nowehere does the cited Evans teach or suggest claims requirement of mapping of at least one device independent class attribute to at least one device specific class attribute.

Examiner responds:

Examiner is not persuaded. Evans also based on polymorphic principals and essentially attributes behave the same way as functions in terms of their polymorphic abilities.

Applicant argues:

As per claims 4,14,24,33 the claims require that the received request indicate a

source class and a requested class and nowhere does the cited Polymorphism or the

cited Evans teach or suggest these claim requirements.

Examiner responds:

Examiner is not persuaded. This argument is not tenable for 2 reasons.

First, In response to applicant's arguments, the recitation "wherein the received request

indicates a source class and a requested class" has not been given patentable weight

because the recitation occurs in the preamble. A preamble is generally not accorded

any patentable weight where it merely recites the purpose of a process or the intended

use of a structure, and where the body of the claim does not depend on the preamble

for completeness but, instead, the process steps or structural limitations are able to

stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v.*

Robie, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). Secondly, even if the

recitation of wherein the received request indicates a source class and a requested

class should be given patentable weight (which it should not), the entire concept of run-

time binding is that calls are made to the base (or parent) class and are replaced at run-

time with calls to the derived (or child) class, therefore it indicates a requested class (the

class of the child that is actually called) and a source class (the base class that the call

is written in but never actually called).

Applicant argues:

Nowhere does the cited Evans teach or suggest the claim requirement that the

source class represents storage pools and the requested class represents storage

volumes corresponding to the storage pool.

Examiner responds:

Examiner is not persuaded. While paragraph 0178 was cited it cannot be fully

understood without paragraph 0181 in which it is disclosed that the principals in this

invention apply to physical resources, and that any manageable physical resource is

contemplated.

Applicant argues:

Claims 7,17,27 further require generating a device specific request in a device

specific language, and sending the device specific request in the device specific

language to a managed device coupled to the proxy. Nowhere does the cited paragraph

159 of the cited Evans teach or suggest the claim requirement of proxy as required by

the claims. Instead, the paragraph 159 f the cited Evans discusses an agent, an NMS

and a management information base.

Examiner responds:

Examiner is not persuaded for 2 reasons. First, in response to applicant's arguments, the recitation "are performed by a proxy" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). Secondly, even if the recitation of "performed by a proxy" should be given patentable weight (which it should not) examiner replies that during patent examination, the pending claims must be 'given the broadest reasonable interpretation consistent with the specification.' Applicant always has the opportunity to amend the claims during prosecution and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In re Prater, 162 USPQ 541,550-51 (CCPA 1969). In this case an agent acts as a go between and automate computer activities which is a proxy for purposes of broad interpretation.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.
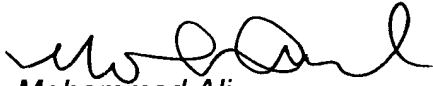
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leon J. Harper whose telephone number is 571-272-0759. The examiner can normally be reached on 7:30AM - 4:00Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain T. Alam can be reached on 571-272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LJH
Leon J. Harper
March 17,2006

Mohammad Ali
Primary Examiner